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(72) Inventor: Morun, Mark J.
West Chester PA 19380 (US)

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(74) Representative: Burke, Steven David et al
R.G.C. Jenkins & Co.
26 Caxton Street
London SW1H 0RJ (GB)

(71) Applicant: MARS, INCORPORATED
McLean, Virginia 22101-3883 (US)

(54) Coin acceptance method and apparatus

(57) A method and apparatus for accepting coins of denominations that have and do not have coin tubes for making change in a coin mechanism is described. One aspect of the invention concerns a method for calculating an overpay amount. The overpay amount is set to equal the value of the lowest value coin with a tube minus the value of the lowest value non-tubed coin. Thus, when the lowest value coin tube is empty a vending machine customer will be permitted to insert low value, non-

tubed coins up to the overpay value to increase the likelihood of enabling a vend of an item to take place. Another aspect of the invention relates to the acceptance of high-valued, non-tubed coins. The high-value non-tubed coins are acceptable if adequate change exists in the coin tubes to payback their value plus the value of any existing credit, if their value plus any credit value is greater than the maximum vend price, and if each of the vend prices in the vending machine permit adequate change to be returned to the customer.

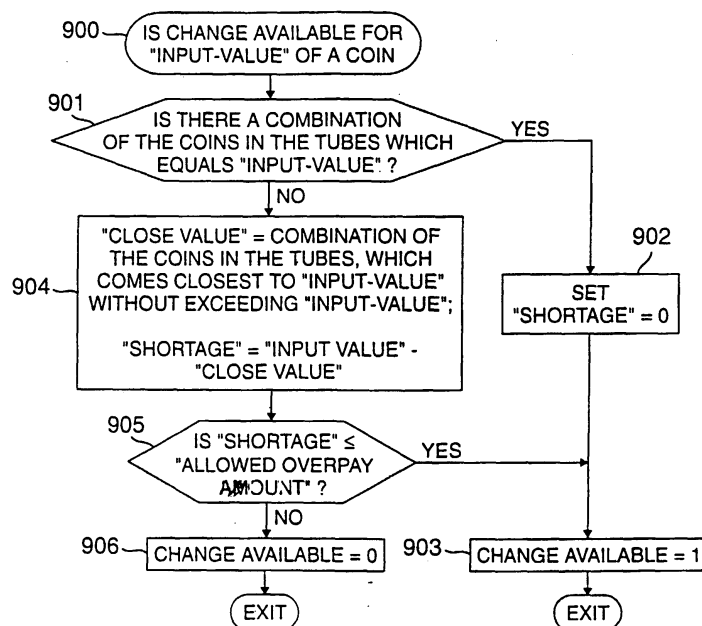


FIG. 8



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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X A	EP 0 450 927 A (NIPPON CONLUX) 9 October 1991 (1991-10-09) * column 7, line 46 - column 9, line 13; figure 7 * -----	20,22 1-3,13, 16,18,21	G07F5/24
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			G07F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 18 May 1999	Examiner NEVILLE, D
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-3, 13-22



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 96 30 1398

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-3,13-22

Allowing a customer to accept too little change up to a defined limited extent.

2. Claims: 4-12,23

Deciding whether to accept large coins which are not stored such that they can be given out in change.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 96 30 1398

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-05-1999

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